

REMARKS

Applicants thank the Examiner for the very thorough consideration given the present application.

Claims 4-11 are now present in this application. Claim 4 is independent. Claim 4 has been amended. Reconsideration of this application, as amended, is respectfully requested.

Drawings

Applicants have ***still not*** received a Notice of Draftsperson's Patent Drawing Review PTO-948 or other indication of whether or not the formal drawings have been approved by the Draftsperson. Since no objection has been received, Applicants assume that the drawings are acceptable and that no further action is necessary. Confirmation thereof in the next Office Action is respectfully requested.

Objection to the Specification

The Examiner has objected to the specification as failing to provide proper antecedent basis for the term "alone" in claim 4. To address the Examiner's objection, the term "alone" has been deleted from claim 4. Withdrawal of this objection is respectfully requested.

Rejection Under 35 U.S.C. § 102

Claims 4, 8, 10 and 11 stand rejected under 35 U.S.C. § 102(e) as being anticipated by Yates. This rejection is respectfully traversed.

A complete discussion of the Examiner's rejection is set forth in the Office Action, and is not being repeated here.

While not conceding the appropriateness of the Examiner's rejection, but merely to advance prosecution of the instant application, Applicants respectfully submit that independent claim 4 has been amended to recite a combination of steps in a method of etching and cleaning objects contained in a vessel, including the step of draining the cleaning solution from an upper portion of the vessel. Applicants respectfully submit that this combination of steps as set forth in independent claim 4 is not disclosed or made obvious by the prior art of record, including Yates.

The Examiner states that Yates discloses a method comprising etching the objects by introducing an etching solution into a vessel (Col.11, lines 19-21) and forcing out the etching solution alone from the vessel by introducing a pressurized gas into the vessel (Col.11, line 22).

However, in Yates, a cleaning solution is not drained through an upper opening in the vessel. In fact, the effluent valves of Yates (through which the vessel is drained) are at a level below the lowest portion of the semiconductor structure (see Figs. 1-3).

In Yates, it is necessary (a key feature) that an inert gas atmosphere be provided in the vessel above the surface of any liquid provided in the vessel. The purpose of this inert atmosphere is to prevent corrosion from occurring on the substrate as a result of the substrate being in a total liquid environment such as deionized water (see Yates, Col.6, lines 40-65). In all of the embodiments of Yates, draining of the DI water takes place at a lower portion of the vessel. Otherwise, an inert gas atmosphere could not be maintained above the liquid.

Therefore, draining cleaning solution from the vessel through an upper opening of the vessel would destroy the inert gas atmosphere, and thus defeat the purpose of Yates (preventing corrosion). In this regard, Yates employs the same method as the related art disclosed by the Applicants, that is, gas is applied above the deionized water in order to force it out through a lower opening in the vessel.

By contrast, the Applicants' disclosure provides that D.I. water is supplied into the vessel 10 through a third supplying pipe 10c in order to clean the objects, and then drained through the first draining pipe 10d (see Applicants' specification, paragraph [0037]. Clearly, first draining pipe 10 is disposed in an upper portion of the vessel (see Fig. 10d). Such a scheme actually prevents the occurrence of an undesirable gas atmosphere above the water until IPA drying gas can be introduced from above. The method of Yates employs a strategy opposite to the Applicants' strategy.

Therefore Yates fails to teach a combination of steps in a method of etching and cleaning objects contained in a vessel, including the steps of draining the cleaning solution from the vessel through an upper opening of the vessel, as recited in independent claim 4, as amended. Accordingly, reconsideration and withdrawal of this rejection are respectfully requested.

With regard to dependent claims 8, 10 and 11, Applicants submit that claims 8, 10 and 11 depend, either directly or indirectly, from independent claim 4, which is allowable for the reasons set forth above, and therefore claims 8, 10 and 11, are allowable based on their dependence from claim 4. Reconsideration and allowance thereof are respectfully requested.

Rejections under 35 U.S.C. § 103

Claims 4-11 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Yates. This rejection is respectfully traversed.

A complete discussion of the Examiner's rejection is set forth in the Office Action, and is not being repeated here.

Yates, argued above with respect to independent claim 4, fails to teach or suggest, *inter alia*, a combination of steps in a method of etching and cleaning objects contained in a vessel, including the steps of draining the cleaning solution from the vessel through an upper opening of the vessel, as recited in independent claim 4, as amended.

Claims 5-11 depend, either directly or indirectly on independent claim 4. Since Yates fail to teach or suggest the above-recited features of independent claim 4, Yates cannot render claims 4-11 obvious to one of ordinary skill in the art. Reconsideration and withdrawal of this art grounds of rejection is respectfully requested.

Conclusion

All of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. Applicants therefore respectfully request that the Examiner reconsider all presently outstanding rejections and that they be withdrawn. It is believed that a full and complete response has been made to the outstanding Office Action, and as such, the present application is in condition for allowance.

Pursuant to the provisions of 37 C.F.R. § 1.17 and § 1.136(a), Applicant hereby petitions for an extension of one (1) month in which to file a response to the outstanding Office Action. The required fee of \$120.00 is attached hereto.

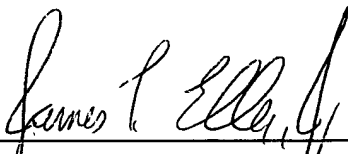
If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, the Examiner is invited to telephone Percy L. Square, Registration No. 51,084, at (703) 205-8034, in the Washington, D.C. area.

Prompt and favorable consideration of this Amendment is respectfully requested.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

Respectfully submitted,

BIRCH, STEWART, KOLASCH & BIRCH, LLP

By: 
James T. Eller, Jr., #39,538
P.O. Box 747
Falls Church, Virginia 22040-0747
Telephone: (703)205-8000

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